

What is claimed is:

1. A method for transmitting frames using a fibre channel switch, comprising:  
5 determining a frame's priority based on a hop count for the frame;  
placing a frame in a priority queue, where the priority queue is dedicated to frames having similar priorities;  
selecting a frame for transmission based on the frame's  
10 priority, if credit is available, where a frame with a higher priority is sent before a frame with a lower priority; and  
selecting a frame with a lower priority if enough higher priority frames have been sent.
- 15 2. The method of Claim 1, where a counter maintains count of frames that are transmitted from a priority queue, and is used to send lower priority frames if enough higher priority frames have been sent.
3. The method of Claim 1, where a frame with a  
20 higher hop count has lower priority compared to a frame with a lower hop count.
4. A system for transmitting fibre channel  
frames, comprising:  
a fibre channel switch with a transmit port with at  
25 least two priority queues for placing frames with

different priorities, where a frame's priority is based on a hop count depending upon the frame's destination; a counter that keeps track of frames that are transmitted from the two priority queues; and

5 a credit control module that determines if credit is available before sending a particular frame.

5. The system of Claim 4, where a frame's priority is inversely proportional to the frame's hop count.

10 6. A fibre channel switch having a receive and transmit port for transmitting frames, comprising:  
at least two priority queues for placing frames with different priorities, where a frame's priority is based on a hop count depending upon the frame's destination;  
15 a counter that keeps track of frames that are transmitted from the two priority queues; and  
a credit control module that determines if credit is available before sending a particular frame.

7. The switch of Claim 6, where a frame's  
20 priority is inversely proportional to the frame's hop count.

8. A system for transmitting fibre channel / frames, comprising:

means for placing a frame in a priority queue, where the priority queue is dedicated to frames having similar priorities;

means for selecting a frame for transmission based on  
5 the frame's priority, if credit is available, where a frame with a higher priority is sent before a frame with a lower priority; and

means for selecting a frame with a lower priority if enough higher priority frames have been sent.

10 9. The system of Claim 8, further comprising:  
means for maintaining a count of frames that are transmitted from a priority queue, and the count is used to send lower priority frames if enough higher priority frames have been sent.

15 10. The system of Claim 8, where a frame with a higher hop count has lower priority compared to a frame with a lower hop count.

11. A fibre channel switch having a receive port and a transmit port for transmitting fibre channel  
20 frames, comprising:

means for placing a frame in a priority queue, where the priority queue is dedicated to frames having similar priorities;

means for selecting a frame for transmission based on  
25 the frame's priority, if credit is available, where a

frame with a higher priority is sent before a frame with a lower priority; and means for selecting a frame with a lower priority if enough higher priority frames have been sent.

5 12. The switch of Claim 11, further comprising: means for maintaining a count of frames that are transmitted from a priority queue, and the count is used to send lower priority frames if enough higher priority frames have been sent.

10 13. The switch of Claim 11, where a frame with a higher hop count has lower priority compared to a frame with a lower hop count.